# PHILIPS UL 41

OUTPUT PENTODE
PENTHODE DE SORTIE
ENDPENTODE

Heating : indirect; series supply
Chauffage: indirect; alimentation- série
Heizung : indirekt; Serienspeisung

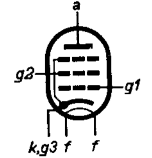
$V_f$ = 45 V
$I_f$ = 100 mA

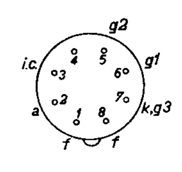
Base, culot, Sockel: RIMLOCK

Overall length: 76 mm
See pages 203 and 252

Hauteur totale: 76 mm
Voir pages 203 et 252

Gesamthöhe : 76 mm
Siehe S. 203 und 252




Capacitances
Capacités
Kapazitäten

$C_a$ = 8,3 pF
$C_{g1}$ = 11 pF
$C_{ag1}$ < 1 pF
$C_{g1f}$ < 0,1 pF

Operating characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

| | | | | | |
|---|---|---|---|---|---|
| $V_a$ | = | 100 | 110 | 170 | V |
| $V_{g2}$ | = | 100 | 110 | 170 | V |
| $V_{g1}$ | = | -5,7 | -6,4 | -10,4 | V |
| $I_a$ | = | 29 | 32 | 53 | mA |
| $I_{g2}$ | = | 5,5 | 6,0 | 10 | mA |
| S | = | 8,0 | 8,5 | 9,5 | mA/V |
| $R_i$ | = | 18 | 18 | 20 | kΩ |
| $R_{a\sim}$ | = | 3 | 3 | 3 | kΩ |
| $\mu_{g2g1}$ | = | 10 | 10 | 10 | |
| $W_o$($d_{tot}$=10%) | = | 1,35 | 1,7 | 4,25 | W |
| $V_i$($d_{tot}$=10%) | = | 3,75 | 4,2 | 6,0 | Veff |
| $W_o$($I_{g1}$=+0,3μA) | = | 1,35 | 1,7 | 4,9 | W |
| $V_i$($W_o$ = 50 mW) | = | 0,55 | 0,55 | 0,5 | Veff |

# PHILIPS

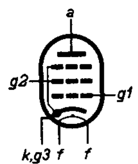


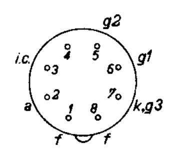

OUTPUT PENTODE
PENTHODE DE SORTIE
ENDPENTODE

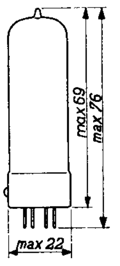
Heating : indirect; series supply
Chauffage: indirect; alimentation série
Heizung : indirekt; Serienspeisung

$V_f$ = 45 V
$I_f$ = 100 mA

Dimensions in mm
Dimensions en mm
Abmessungen in mm




Base, culot, Sockel: RIMLOCK

Capacitances
Capacités
Kapazitäten

| | | |
|---|---|---|
| $C_a$ | = | 8,3 pF |
| $C_{g_1}$ | = | 11 pF |
| $C_{ag_1}$ | < | 1 pF |
| $C_{g_1f}$ | < | 0,1 pF |

Typical characteristics class A
Caractéristiques d'utilisation classe A
Betriebsdaten Klasse A

| | | | | |
|---|---|---|---|---|
| $V_a$ | = | 100 | 170 | V |
| $V_{g_2}$ | = | 100 | 170 | V |
| $V_{g_1}$ | = | -5,7 | -10,4 | V |
| $I_a$ | = | 29 | 53 | mA |
| $I_{g_2}$ | = | 5,5, | 10 | mA |
| S | = | 8,0 | 9,5 | mA/V |
| $R_i$ | = | 18 | 20 | kΩ |
| $R_a$ | = | 3 | 3 | kΩ |
| $\mu_{g_2g_1}$ | = | 10 | 10 | |
| $W_o$ ($d_{tot}$ = 10%) | = | 1,25 | 4,0 | W |
| $V_i$ ($d_{tot}$ = 10%) | = | 3,8 | **6,0** | **$V_{eff}$** |
| $V_i$ ($W_o$ = 50 mW) | = | 0,55 | 0,5 | $V_{eff}$ |

# UL 41 PHILIPS

Operating characteristics class AB
Caractéristiques d'utilisation classe AB
Betriebsdaten Klasse AB

| | | | | | | |
|---|---|---|---|---|---|---|
| $V_a$ | = | 100 | | 170 | | V |
| $V_{g2}$ | = | 100 | | 170 | | V |
| $R_k$ | = | 100 | | 100 | | Ω |
| $R_{aa\sim}$ | = | 4,0 | | 4,0 | | kΩ |
| $V_i$ | = | 0 | 4,6 | 0 | 9,3 | $V_{eff}$ |
| $I_a$ | = | 2x24 | 2x27 | 2x44 | 2x49 | mA |
| $I_{g2}$ | = | 2x4,6 | 2x6,8 | 2x8,8 | 2x16,5 | mA |
| $W_o$ | = | 0 | 2,2 | 0 | 9 | W |
| $d_{tot}$ | = | - | 3,5 | - | 4,0 | % |

Limiting values
Caractéristiques limites
Grenzdaten

| | | | |
|---|---|---|---|
| $V_{a_o}$ | = max. | 550 | V |
| $V_a$ | = max. | 250 | V |
| $W_a$ | = max. | 9 | W |
| $V_{g2_o}$ | = max. | 550 | V |
| $V_{g2}$ | = max. | 250 | V |
| $W_{g2}$ ($V_i$ = 0) | = max. | 1,75 | W |
| $W_{g2}$ ($W_o$ = max.) | = max. | 4,0 | W |
| $I_k$ | = max. | 75 | mA |
| $V_{g1}$ ($I_{g1}$=+0,3µA) | = max. | -1,3 | V |
| $R_{g1}$ ($R_k$ = 165 Ω) | = max. | 1 | MΩ |
| $R_{kf}$ | = max. | 20 | kΩ |
| $V_{kf}$ | = max. | 150 | V |

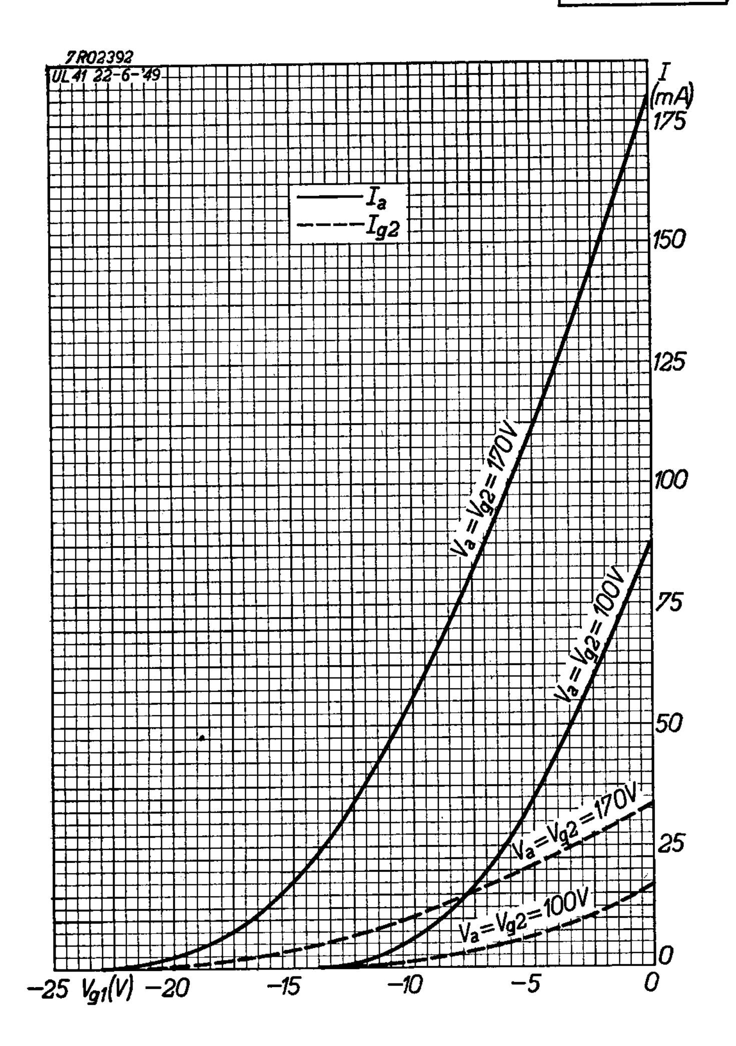
Operating characteristics class AB
Caractéristiques d'utilisation classe AB
Betriebsdaten Klasse AB

| | | | | | | |
|---|---|---|---|---|---|---|
| $V_a$ | = | 100 | | 170 | | V |
| $V_{g2}$ | = | 100 | | 100 → 170 | | V |
| $R_k$ | = | 100 | | 100 | | Ω |
| $R_{aa}$ | = | 4,0 | | 4,0 | | kΩ |
| $V_i$ | = | 0 | 4,6 | 0 | 9,3 | $V_{eff}$ |
| $I_a$ | = | 2x25 | 2x27 | 2x46 | 2x49 | mA |
| $I_{g2}$ | = | 2x5,0 | 2x6,8 | 2x9,0 | 2x16,5 | mA |
| $W_o$ | = | 0 | 2,2 | 0 | 9 | W |
| $d_{tot}$ | = | - | 4,0 | - | 5,0 | % |

Limiting values
Caractéristiques limites
Grenzdaten

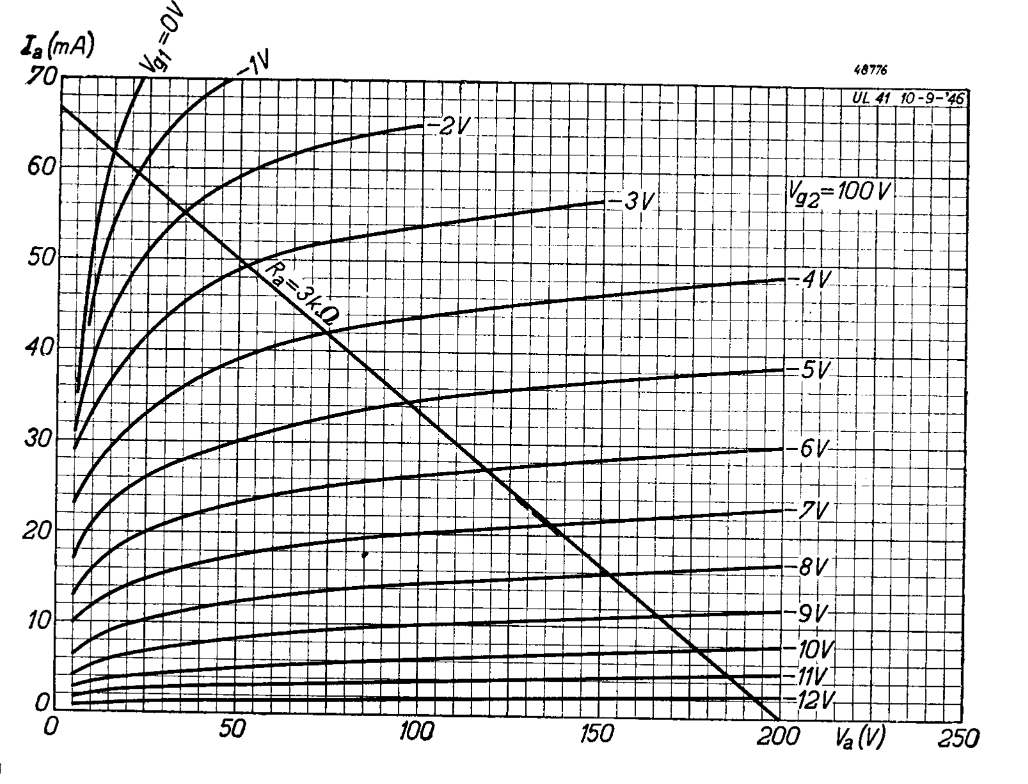
| | | | |
|---|---|---|---|
| $V_{a_o}$ | = max. | 550 | V |
| $V_a$ | = max. | 250 | V |
| $W_a$ | = max. | 9 | W |
| $V_{g2_o}$ | = max. | 550 | V |
| $V_{g2}$ | = max. | 250 | V |
| $W_{g2}$ | = max. | 2,5 | W |
| $I_k$ | = max. | 75 | mA |
| $V_{g1}$ ($I_{g1}$ =+0,3 µA) | = max. | -1,3 | V |
| $R_{g1}$ | = max. | 1 | MΩ[1] |
| $R_{kf}$ | = max. | 20 | kΩ |
| $V_{kf}$ | = max. | 150 | V |

[1]) With automatic bias
Avec polarisation automatique
Mit automatischer Gittervorspannung

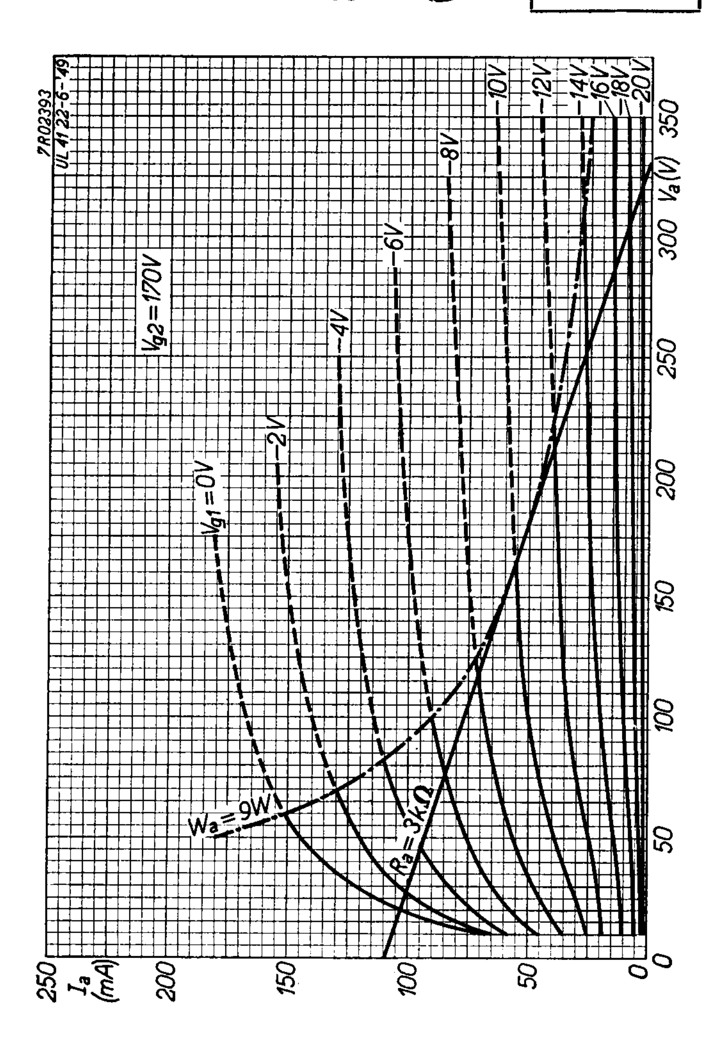

7R02392
UL 41 22-6-'49
I (mA)
175
150
125
100
75
50
25
0
—— $I_a$
- - - - $I_{g2}$
$V_a = V_{g2} = 170V$
$V_a = V_{g2} = 100V$
$V_a = V_{g2} = 170V$
$V_a = V_{g2} = 100V$
−25 $V_{g1}$(V) −20
−15
−10
−5
0

# UL 41

## "Miniwatt"




B


7R02393
UL 41 22-6-49
$V_{g2}$=170V
$V_{g1}$=0V
-2V
-4V
-6V
-8V
-10V
-12V
-14V
-16V
-18V
-20V
$W_a$=9W
$R_a$=3kΩ
$I_a$ (mA)
$V_a$(V)
250
200
150
100
50
0
0
50
100
150
200
250
300
350

# UL 41

"Miniwatt"

$V_a = 100V$
$V_{g2} = 100V$
$R_a = 3k\Omega$
$V_{g1} = -5,7V$

$W_o$ (W): 0 0,2 0,4 0,6 0,8 1 1,2 1,4

$V_i$ ($V_{eff}$): 0 1 2 3

d (%): 0 5 10 15 20 25

I (mA): 0 10 20 30 40 50

$V_i$
$I_a$
$d_{tot}$
$I_{g2}$

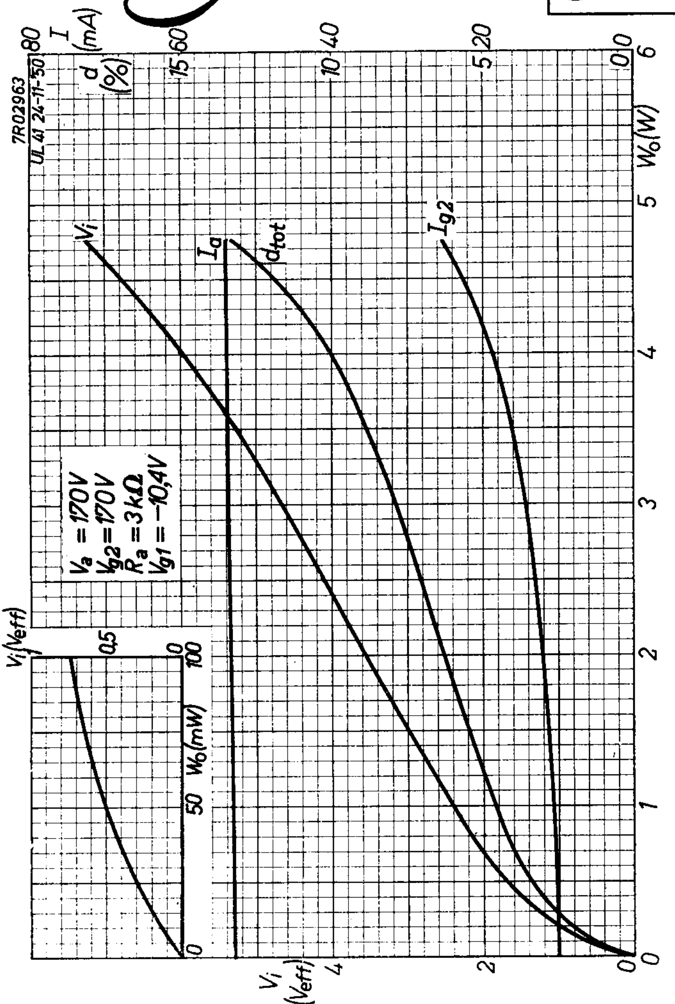
$V_i$ ($V_{eff}$): 0 0,5 1

$W_o$ (mW): 0 50 100

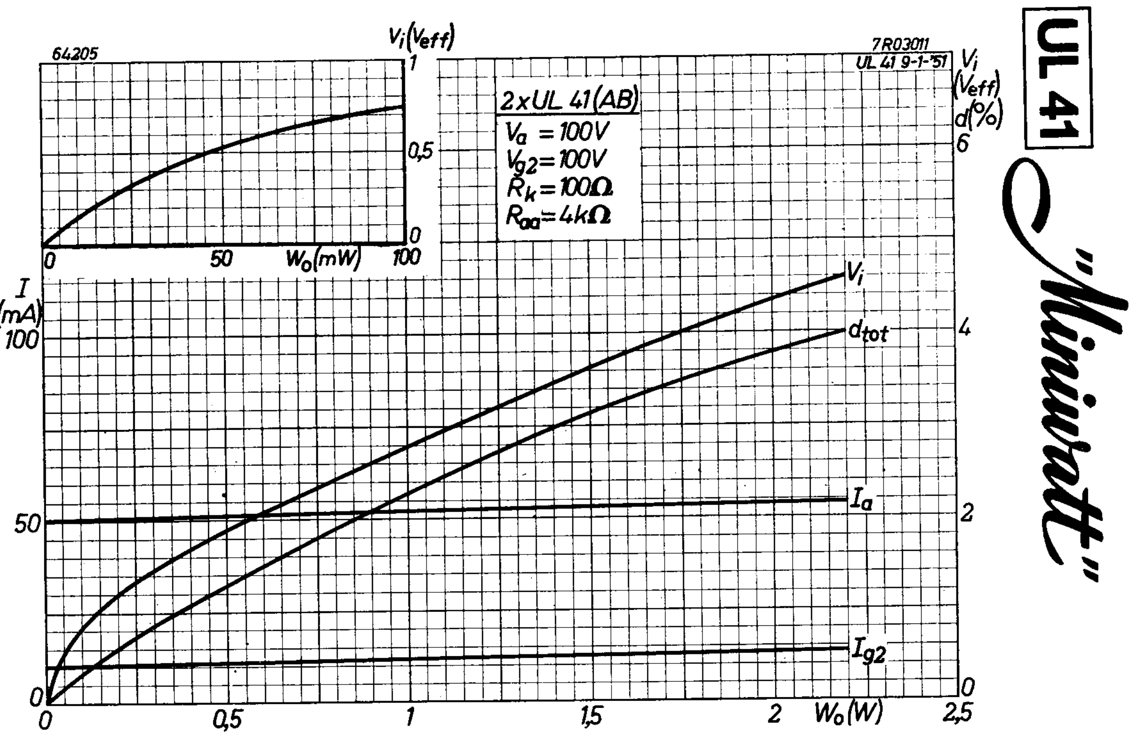
7R02962

UL 41 24-11-'50

D

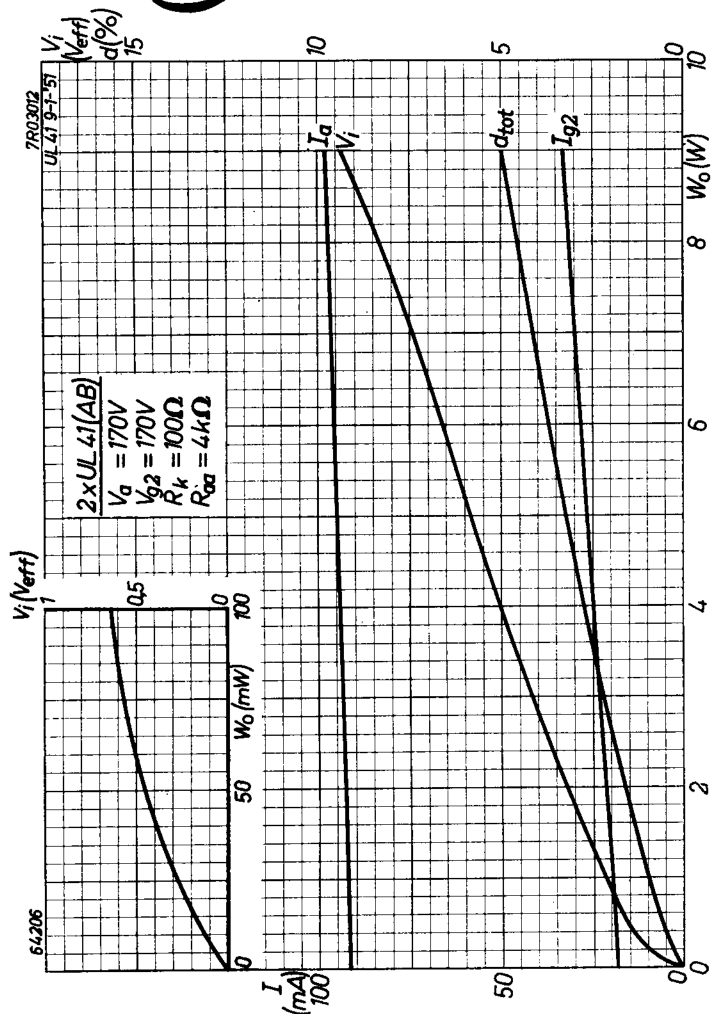


7R02963
UL 41 24-11-'50
I (mA)
d (%)
$W_o$ (W)
$V_i$
$I_a$
$d_{tot}$
$I_{g2}$
$V_a$ = 170V
$V_{g2}$ = 170V
$R_a$ = 3kΩ
$V_{g1}$ = −10,4V
$V_i$ ($V_{eff}$)
$W_o$ (mW)

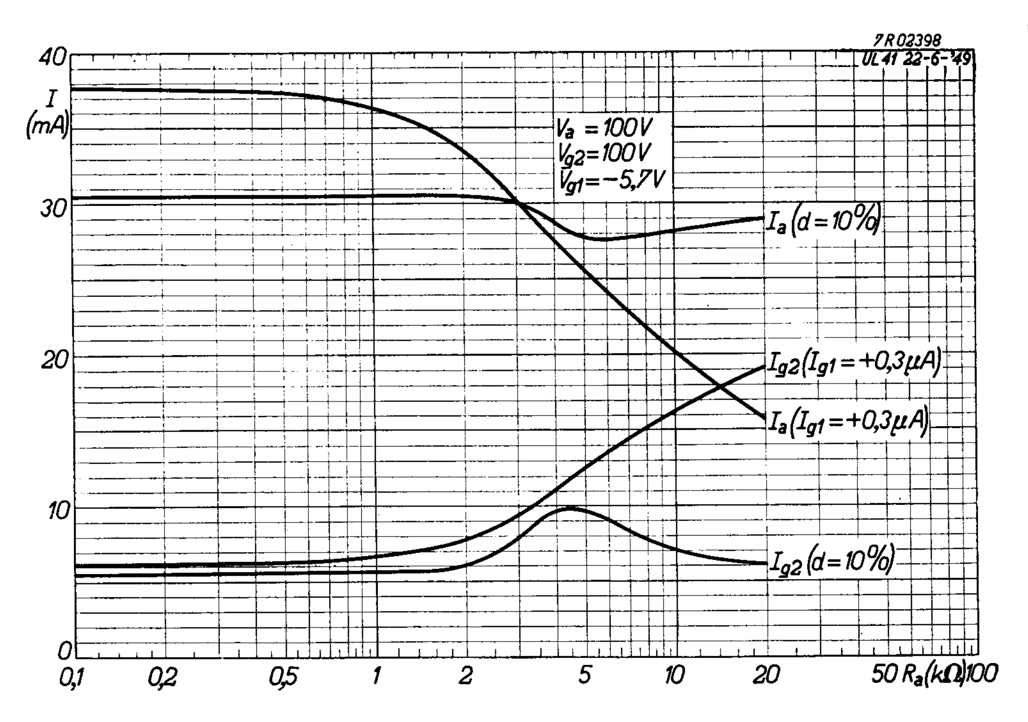

UL 41
"Miniwatt"
64205
7R03011
UL 41 9-1-'51
2xUL 41(AB)
Va = 100V
Vg2 = 100V
Rk = 100Ω
Raa = 4kΩ
Vi (Veff)
Wo (mW)
Vi (Veff) d(%)
I (mA)
Vi
dtot
Ia
Ig2
Wo (W)

F

"Miniwatt" **UL 41**

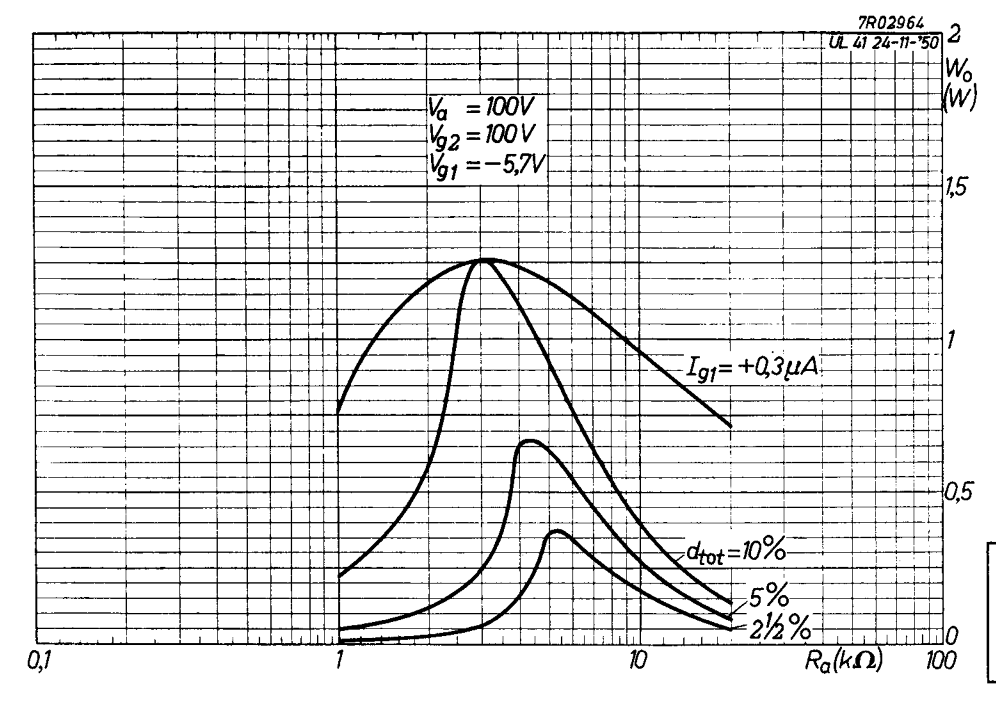


# UL 41 "Miniwatt"

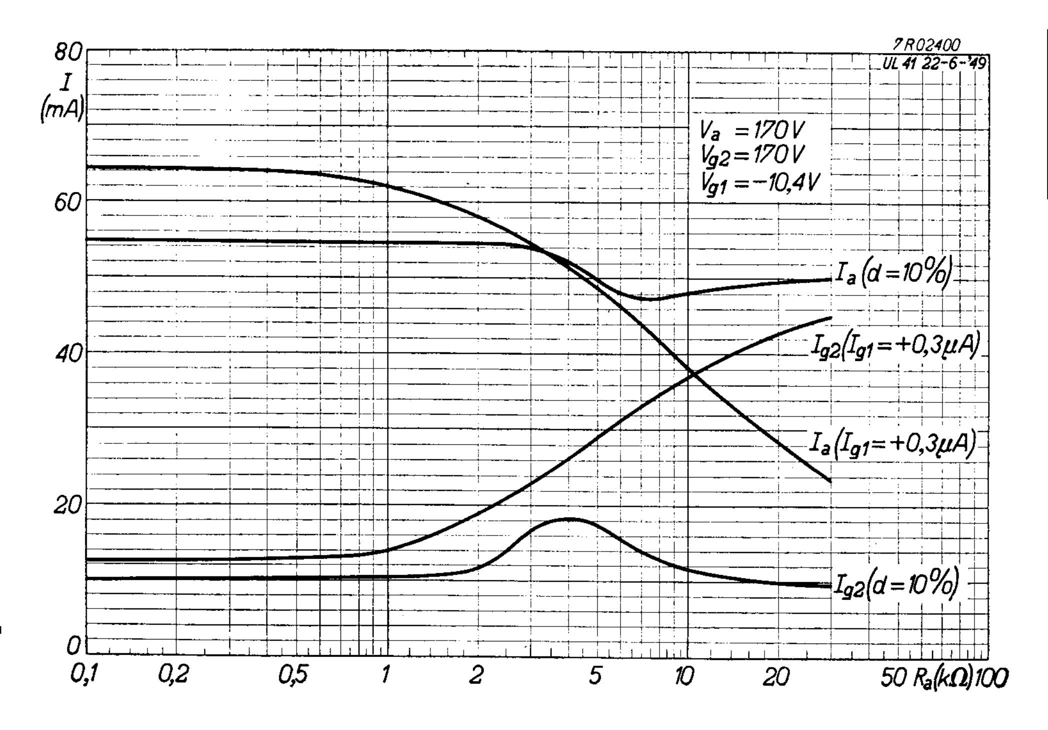



H

"Miniwatt" **UL 41**

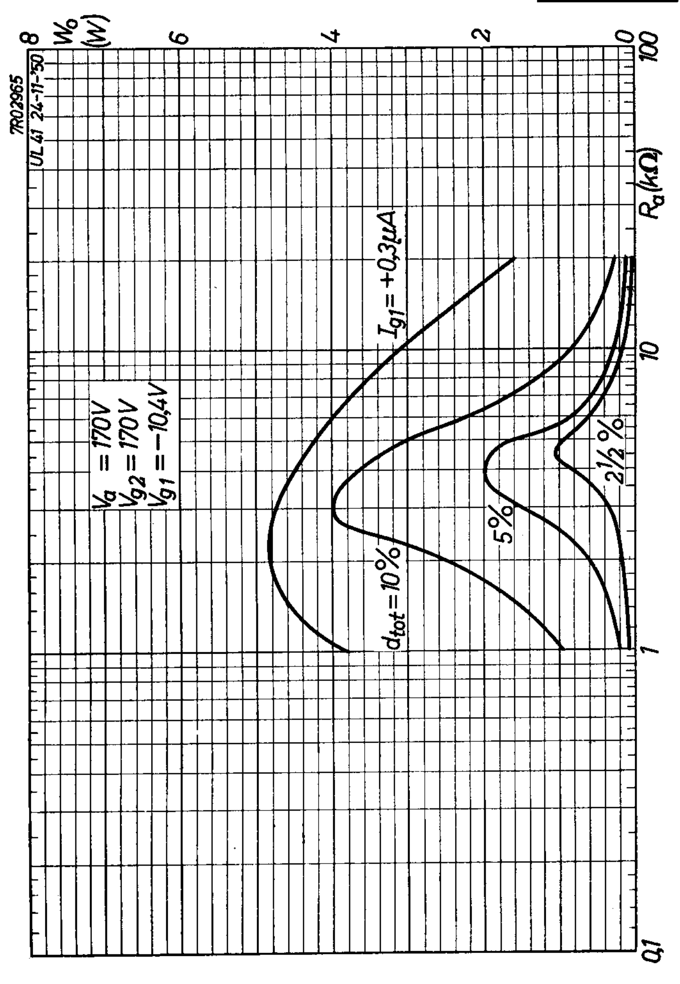


**UL 41** "Miniwatt"




J.

"Miniwatt" **UL 41**




12.12.1950

K




**UL41**

| **page** | **sheet** | **date** |
|---|---|---|
| 1 | 1 | 1953.12.12 |
| 2 | 1 | 1955.05.05 |
| 3 | 2 | 1953.12.12 |
| 4 | 2 | 1955.05.05 |
| 5 | A | 1949.07.07 |
| 6 | B | 1949.07.07 |
| 7 | C | 1950.12.12 |
| 8 | D | 1950.12.12 |
| 9 | E | 1950.12.12 |
| 10 | F | 1950.12.12 |
| 11 | G | 1951.02.02 |
| 12 | H | 1951.02.02 |
| 13 | I | 1950.12.12 |
| 14 | J | 1950.12.12 |
| 15 | K | 1950.12.12 |
| 16 | FP | 1999.10.12 |